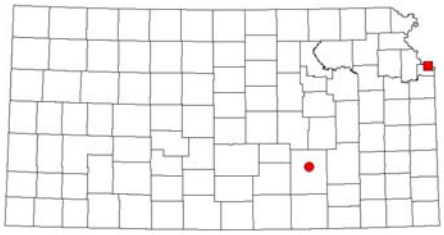
Zebra Mussel:
Their Inevitable Arrival in Kansas



The zebra mussel, *Dreissena polymorpha* (Pallas, 1771), a small bivalve mollusk native to eastern Europe and Western Asia, was introduced accidentally to North America between 1985 and 1986 in the ballast water of commercial ships arriving from Europe. Within a decade and a half, zebra mussels have infested all Great Lakes and over 20 mid-western and eastern states. Biologists believe this highly invasive exotic species has spread from the Great Lakes into our major river systems primarily through inadvertent transport by commercial barge and recreational vessels. In the last two years, several dead zebra mussel specimens have been recovered from the cooling water intake of a power plant located along the Missouri River near Kansas City, and just recently within the month of August 2003, live specimens were discovered in El Dorado Lake in south-central Kansas. This rapid spread can be partly attributed to their reproductive cycle. A fully mature female may produce up to one million eggs per season. Spawning usually begins in early spring or summer when the water temperature warms to about 54 degrees (12 degrees Celsius) and continues until the water cools below 54 degrees Fahrenheit.

Deemed a non-indigenous aquatic nuisance, the zebra mussel has the potential to cost North American water users billions of dollars in monitoring and control. Upon finding environmental conditions favorable for growth, weak swimming microscopic planktonic larvae (veligers) develop into small (< 1 inch) sessile adult mussels that attach to any available hard substrate by means of byssus threads. These adult mussels usually appear as yellow-brown shells with dark-and light colored stripes, and superficially resemble our small native clams. Large colonies can form containing numerous individuals and interfere with the operations of water intake facilities, irrigation systems, and recreational boat motors. These infestations also often have negative ecological impacts on native freshwater mussels, and may disrupt normal aquatic food webs and ecosystem functions.

Courtesy of Steve Cringan, BEFS

Cooperative monitoring efforts ongoing by state agencies and industrial and public utilities continue to track the spread of zebra mussels. Public awareness concerning this phenomenon is critical for preparing for and mitigating the potential economic and ecological impacts of these organisms. Recent studies suggest there are ways that individual citizens may be able to help slow the spread of zebra mussels. Here are some ways each of us can help.

> If a boat or personal watercraft (PWC) is or may be contaminated with zebra mussels, perform the following inspection and cleaning procedures before entering any water body:
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> > Inspect the hull, trailer, and live well (must be dry) and remove any visible zebra mussels or aquatic plants. If zebra mussels are discovered, collect and place in rubbing alcohol and contact the appropriate state agencies (see below). Under no circumstances throw the organism back into the water. Before leaving the premises of any visited water body, drain out any lake or river water from the engine cooling system (PWCs blow out), live well, bilge, bait bucket or any other water that may be on-board. Trash all leftover bait on land in appropriate receptacles. Do not re-use live bait if exposed to infested waters. At a minimum, rinse hull, trailer, motor, and infested equipment with high pressure chlorinated tap water, using hot water (140EF) if possible, flushing engine cooling system, live well, and bilge before transporting your vessel from infested waters to uninfested waters and dry everything in an area protected from rain for FIVE DAYS before entering uninfested waters.

Public adherence to recommended control practices and reporting zebra mussel sightings will help prevent continual spread to our lakes and rivers. For more information, or to report a zebra mussel sighting, please contact the Kansas Department of Wildlife and Parks, Research and Survey Office at (620) 342-0658 or the Kansas Department of Health and Environment, Bureau of Environmental Field Services at (785) 296-6603. To find additional information and identified control measures targeted at the zebra mussel, please visit the US Army Corps of Engineers website http://www.wes.army.mil/el/elpubs/zebtnote.html.